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Attorney Docket No. 5470.378

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: Kole

Confirmation No. 3535

Application No.: 10/672,501

Group Art Unit: 1645

Filed: September 26, 2003

For: *Methods and Compositions for Modifications of Splicing of pre-mRNA*

Date: May 5, 2004

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(b)

Sir:

Attached is a list of documents on Form PTO-1449, together with a copy of any listed foreign patent document and/or non-patent literature. A copy of any listed U.S. patent and/or U.S. patent application publication is not provided herewith in accordance with the waiver by the U.S. Patent and Trademark Office of requirements under 37 C.F.R. § 1.98(a)(2)(i) for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003.

It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.56 and Section 609 of the MPEP.

No fee is believed due. However, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,

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Cathy A. Schetzina

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)				Attorney Docket Number 5470.378		Serial No. 10/672,501	
				Applicants: Kole			
				Filing Date: September 26, 2003		Group 1645	
U. S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1.	5,023,243	06/11/91	Tullis			
	2.	5,149,797	09/22/92	Pederson et al.			
	3.	5,220,007	06/15/93	Pederson et al.			
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	4.	"Antisense Used to Correct Genetic Defect" <i>Nature Biotechnology</i> 14:1637 (1996)					
	5.	Baudys et al. "Stabilization and Intestinal Absorption of Human Calcitonin" <i>Journal of Controlled Release</i> 39:145-151 (1996)					
	6.	Bennett "Antisense Research" <i>Science</i> 271:434 (1996)					
	7.	Bennett et al. "Cationic Lipids Enhance Cellular Uptake and Activity of Phosphorothioate Antisense Oligonucleotides" <i>Molecular Pharmacology</i> 41(6):1023-1033 (1992)					
	8.	DeLong et al. "Novel Cationic Amphiphiles as Delivery Agents for Antisense Oligonucleotides" <i>Nucleic Acids Research</i> 27(16):3334-3341 (1999)					
	9.	Dobkin and Bank "Reversibility of IVS 2 Missplicing in a Mutant Human β -Globin Gene" <i>The Journal of Biological Chemistry</i> 260(30):16332-16337 (1985)					
	10.	Dominski and Kole "Cooperation of Pre-mRNA Sequence Elements in Splice Site Selection" <i>Molecular and Cellular Biology</i> 12(5):2108-2114 (1992)					
	11.	Dominski and Kole "Identification and Characterization by Antisense Oligonucleotides of Exon and Intron Sequences Required for Splicing" <i>Molecular and Cellular Biology</i> 14(11): 7445-7454 (1994)					
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	13.	Dominski and Kole "Restoration of Correct Splicing in Thalassemic Pre-mRNA by Antisense Oligonucleotides" <i>Proc. Natl. Acad. Sci.</i> 90:8673-8677 (1993)					
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	15.	Friedman et al. "Correction of Aberrant Splicing of the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Gene by Antisense Oligonucleotides" <i>Journal of Biological Chemistry</i> 274(51):36193-36199 (1999)					

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		Applicants: Kole	
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16.	Furdon and Kole "Inhibition of in Vitro pre-mRNA Splicing by Antisense Deoxyribonucleotide Analogues" <i>Journal of Cellular Biochemistry Suppl.</i> 130:#K210 (1989) (Abstract)		
17.	Furdon and Kole "The Length of the Downstream Exon and the Substitution of Specific Sequences Affect Pre-mRNA Splicing In Vitro" <i>Molecular and Cellular Biology</i> 8(2): 860-866 (1988)		
18.	Furdon et al. "RNase H Cleavage of RNA Hybridized to Oligonucleotides Containing Methylphosphonate, Phosphorothioate and Phosphodiester Bonds" <i>Nucleic Acids Research</i> 17(22):9192-9204 (1989)		
19.	Gorman et al. "Restoration of Correct Splicing of Thalassemic B-Globin Pre-mRNA by Modified U1 snRNAs" <i>Journal of Biological Chemistry</i> 275(46):35914-35919 (2000)		
20.	Gorman et al. "Stable Alteration of Pre-mRNA Splicing Patterns by Modified U7 Small Nuclear RNAs" <i>Proc. Natl. Acad. Sci. USA</i> 95:4929-4934 (1998)		
21.	Gura "Antisense Has Growing Pains" <i>Science</i> 270:575-577 (1995)		
22.	Kole and Weissman "Accurate In Vitro Splicing of Human β -Globin RNA" <i>Nucleic Acids Research</i> 10(18):5429-5445 (1982)		
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24.	Kulka et al. "Site Specificity of the Inhibitory Effects of Oligo (nucleoside Methylphosphonate)s Complementary to the Acceptor Splice Junction of Herpes Simplex Virus Type 1 Immediate Early mRNA 4" <i>Proc. Natl. Acad. Sci. USA</i> 86:6868-6872 (1989)		
25.	Lacerra et al. "Restoration of Hemoglobin A Synthesis in Erythroid Cells from Peripheral Blood of Thalassemic Patients" <i>PNAS</i> 97(17):9591-9596 (2000)		
26.	Lewis et al. "A Common Human β Globin Splicing Mutation Modeled in Mice" <i>Blood</i> 91(6):2152-2156 (1998)		
27.	Mercatante et al. "Modification of Alternative Splicing of Bcl-x Pre-mRNA in Prostrate and Breast Cancer Cells" <i>Journal of Biological Chemistry</i> 276(19):16411-16417 (2001)		
28.	Miller et al. "Gene Transfer and Antisense Nucleic Acid Techniques" <i>Parasitology Today</i> 10(3):92-97 (1994)		
29.	Milligan et al. "Current Concepts in Antisense Drug Design" <i>J. Medicinal Chemistry</i> 36(14):1923-1937 (1993)		
30.	Munroe "Antisense RNA Inhibits Splicing of Pre-mRNA In Vitro" <i>The EMBO Journal</i> 7(8):2523-2532 (1988)		
31.	Rapaport et al. "Antimalarial Activities of Oligodeoxynucleotide Phosphorothioates in Chloroquine-Resistant <i>Plasmodium falciparum</i> " <i>Proc. Natl. Acad. Sci. USA</i> 89:8577-8580 (1992)		
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33.	Rojanasakul "Antisense Oligonucleotide Therapeutics: Drug Delivery and Targeting" <i>Advanced Drug Delivery Reviews</i> 18:115-131 (1996)		
34.	Ruskin and Green "Specific and Stable Intron-Factor Interactions are Established Early During in Vitro Pre-mRNA Splicing" <i>Cell</i> 43:131-142 (1985)		
35.	Ryder et al. "Sequence-Specific Affinity Selection of Mammalian Splicing Complexes" <i>Nuc. Acids. Res.</i> 18(24):7373-7374 (1990)		
36.	Sazani and Kole "Therapeutic Potential of Antisense Oligonucleotides as Modulators of Alternative Splicing" <i>Journal of Clinical Investigation</i> 112(4):481-486 (2003)		

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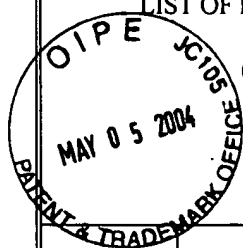
FORM PTO-1449 U.S. Department of Commerce
Patent and Trademark OfficeAttorney Docket Number
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| 38. | Sierakowska et al. "Antibodies to hnRNP Core Proteins Inhibit <i>In Vitro</i> Splicing of Human β -Globin Pre-mRNA" <i>Nucleic Acids Research</i> 14(3):5241-5254 (1986) |
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| 40. | Sierakowska et al. "Repair of Thalassemic Human B-Globin mRNA in Mammalian Cells by Antisense Oligonucleotides" <i>Proc. Natl. Acad. Sci. USA</i> 93:12840-12844 (1996) |
| 41. | Stein "Does Antisense Exist?" <i>Nature Medicine</i> 1:1119-1121 (1995) |
| 42. | Stein and Cheng "Antisense Oligonucleotides as Therapeutic Agents – Is the Bullet Really Magical?" <i>Science</i> 261:1001-1012 (1993) |
| 43. | Stull et al. "Antigene Ribozyme and Aptamer Nucleic Acid Drugs: Progress and Prospects" <i>Pharmaceutical Research</i> 12(4):465-483 (1995) |
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| 49. | Wagner "Gene Inhibition Using Antisense Oligodeoxynucleotides" <i>Nature</i> 372:333-335 (1994) |
| 50. | Wagner "The State of the Art in Antisense Research" <i>Nature Medicine</i> 1:1116-1118 (1995) |
| 51. | Weiss "Upping the Antisense Ante" <i>Science News</i> 139:108-109 (1991) |
| 52. | Westerman et al. "Inhibition of Expression of SV40 Virus Large T-Antigen by Antisense Oligodeoxyribonucleotides" <i>Biomed. Biochim. Acta.</i> 48:85-93 (1989) |
| 53. | Wu-Pong "Oligonucleotides: Opportunities for Drug Therapy Research" <i>Pharmaceutical Technology</i> 18:102-114 (1994) |
| 54. | Zhuang and Weiner "A Compensatory Base Change in Human U2 snRNA Can Suppress a Branch Site Mutation" <i>Genes & Development</i> 3(10):1545-1552 (1989) |

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